APPENDIX A-4

NOVEMBER 27, 2012 PADEP LETTER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

NOV 27 2012

CERTIFIED MAIL NO. 7011 3500 0000 8608 1437

Terry Barrett, P.G.
Remediation Projects Manager
Trinity Industries, Inc.
2525 Stemmons Freeway
Dallas, TX 75207

Re: Conference Call Summary for South Plant Cleanup Plan
October 18, 2012
Trinity Industries, Inc.
Facility ID No. 731732
Borough of Greenville, Mercer County

Dear Mr. Barrett:

Representatives of the Pennsylvania Department of Environmental Protection (Department) and Trinity Industries, Inc. (Trinity) participated in a conference call on October 18, 2012. The purpose of the conference call was to discuss Trinity's proposed responses to the Department's April 27, 2012, Cleanup Plan disapproval letter received by the Department on July 3, 2012, (attached). This letter summarizes the conference call and additional measures required to resolve remaining concerns.

The following bulleted list parallels the headings used in Trinity's July 3, 2012, letter to the Department. The Department's position regarding each issue is presented:

- PADEP Comment 1: The Department is satisfied with the proposed response.
- PADEP Comment 2: In general, the Department agrees with Trinity's proposed response, with the provision that Trinity is able to demonstrate attainment for groundwater under the Act 2 Background Standard. In addition, Trinity should show that the site fill material is not posing a threatened release to groundwater. Trinity was also informed of their option to perform a Site-Specific Risk Assessment for manganese in soil.
- PADEP Comment 3: The Department is satisfied with the proposed response.
- PADEP Comment 4: The Department is satisfied with the proposed response.
- PADEP Comment 5: The Department is satisfied with the proposed response.

- PADEP Comments 6 and 7: The discussion did not resolve the issue concerning contaminated sediments in the Erie Extension Canal and their relationship to releases at the site. Specifically, the Department did not agree that Trinity had adequately investigated the storm water conveyance system with respect to points of discharge into the Erie Extension Canal and Mathay Run. The Department agreed to perform a field inspection (completed on October 19, 2012) to investigate the existence of outfalls associated with the National Pollution Discharge Elimination System (NPDES) Permit No. PAR808323 approved for discharges to the Erie Extension Canal.

- PADEP Comment 8: The Department is satisfied with the proposed response.

- PADEP Comment 9: The Department is satisfied with the proposed response.

- PADEP Comment 10: The Department is satisfied with the proposed response.

Storm Water Conveyance System and Ecological Screening Assessment

The Department's October 19, 2012, field inspection did not confirm the existence of surface water outfalls from the storm water conveyance system (SCS). However, Trinity's position that there are no outfalls to the Erie Extension Canal or Mathay Run from the SCS is in contradiction to the approved Remedial Investigation Report for this site which showed mapped storm water outfalls to these streams. Adequate characterization of the SCS is needed to support a complete Site-Specific ecological screening assessment for this site. While Trinity has performed investigation of the SCS through dye testing and geophysical techniques, none of these measures has succeeded in showing the discharge location for storm water at this site. This was confirmed by the Department's telephone conversation with your consultant, Joseph Gormley, P.E., of Golder Associates, Inc. on November 20, 2012.

The Department requests Trinity further characterize the SCS and determine the current and historic discharge point(s) of the storm water conveyance system. The results of the investigation should be submitted to the Department by December 18, 2012. The Department will discuss revisions, if any, to the agreed January 2013 submission timeline for the revised Cleanup Plan after reviewing the results of the complete SCS investigation, which characterizes both historic and current discharge locations for the SCS.

Sincerely,

John W. O'Hara, P.G.
Section Chief
Environmental Cleanup and Brownfields Program

cc: Grant Dufficy (USEPA)
Joseph Gormley, Jr., P.E.
Kristie Shimko - DEP
Doug Moorhead - OCC
Kim Bontrager - DEP
File

JOH:lsl

APPENDIX A-5

DECEMBER 21, 2012 TRINITY/GOLDER LETTER

Golder Associates

December 21, 2012 Project No. 073-6009-100

John W. O'Hara, P.G.
Section Chief
Environmental Cleanup and Brownfields Program
Pennsylvania Department of Environmental Protection
230 Chestnut Street
Meadville, PA 16335

RE: DECEMBER 18, 2012 MEETING REGARDING SOUTH PLANT CLEANUP PLAN TRINITY INDUSTRIES, INC. FACILITY ID NO. 731732 GREENVILLE, MERCER COUNTY, PENNSYLVANIA

Dear Mr. O'Hara:

Thank you for meeting with Trinity Industries, Inc. (Trinity) and Golder Associates Inc. (Golder) to discuss the results of our recent storm sewer investigations at the Trinity South Plant Site (Site) located at 100 York Street in Greenville, Pennsylvania. The purpose of this letter is to provide a brief summary of the investigative work performed, confirm our agreements during the meeting, and present an updated schedule for submitting a Revised Cleanup Plan for the Site.

On behalf of Trinity, Golder performed additional storm sewer investigations at the Site to characterize the stormwater conveyance system and confirm the current and historic discharge point(s) of the system. These phased investigations were performed in response to requests by the Pennsylvania Department of Environmental Protection (PADEP) including a verbal request during a November 8, 2012 telephone call with Trinity and a subsequent letter to Trinity dated November 27, 2012. Work performed at the Site included the following:

- Geophysics survey on November 13, 2012
- Sewer camera survey on November 20, 2012
- Test Pitting on December 12, 2012

As we discussed at the December 18, 2012 meeting, the phased investigations confirmed that there are no direct stormwater discharges from the Site to either the Old Erie Canal or to Mathay Run. In addition, the investigations confirmed that the previously permitted stormwater outfalls (OF-1, OF-2, and OF-3) actually discharge to on-Site stormwater drainage ditches that were fully characterized during the previous Remedial Investigation for the Site.

During the meeting, PADEP acknowledged that Golder's additional investigations satisfactorily demonstrated there are no direct stormwater discharges from the Site and noted that a PADEP Biologist had previously determined that the Site drainage ditches are not waters of the Commonwealth of Pennsylvania. Therefore, no further investigations or Ecological Risk Assessments are necessary to characterize the Site, and Trinity can proceed with revising the Cleanup Plan in accordance with comments provided by PADEP in an April 27, 2012 disapproval letter.

Going forward, Trinity intends to have the plan ready to go for public comment by January 21, 2013; however, the requisite public comment period will necessitate final delivery to PADEP on February 28, 2013. We have submitted an updated project schedule reflecting this timing for your approval

Golder Associates Inc.
200 Century Parkway, Suite C
Mt. Laurel, NJ 08054 USA
Tel: (856) 793-2005 Fax: (856) 793-2006 www.golder.com

(see attached). As discussed, the Revised Cleanup Plan will include the results of the additional stormwater investigations.

Trinity and Golder believe this letter accurately reflects the discussions held and agreements made during our December 18, 2012 meeting and serves as a sufficient record of such. If you have any questions or comments regarding the above, please do not hesitate to contact Terry Barrett, of Trinity, or Joe Gormley.

GOLDER ASSOCIATES INC.

Joseph B. Gormley, Jr., P.E.
Senior Consultant, Project Coordinator

Mark Haney
Project Director

cc: Terry Barrett, P.G., Trinity Industries, Inc. (Electronic Copy)
Grant Dufficy, USEPA
Eric Gustafson, DEP
Kristie Shimko, DEP
Clem DeLattre, DEP
Doug Moorhead, DEP
Kim Bontrager, DEP

Attachment Updated Schedule – South Plant Response Activities

JBG/MAH:bjb

Updated Schedule[1]
South Plant Response Activities
Trinity Industries, Inc. - Greenville, Pennsylvania

Activity	Duration	Start Date	End Date
Design Activities[1]			
Cleanup Plan			
Prepare Revised Cleanup Plan	Ongoing	----------	----------
Public Comment Period for Revised Cleanup Plan	30 days	1/21/2013	2/19/2013
Submit Revised Cleanup Plan and Responsiveness Summary to PADEP	0 days	Upon Completion of Cleanup Plan and Public Comment Period including Preparation of Responsiveness Summary	2/28/2013
PADEP Review/Approval	90 days	3/1/2013	5/29/2013
Site Response Activities[2]			
On-Site Response Actions			
Mobilization[3]	7 days	9/30/2013	10/6/2013
Site Cleanup[4]	To Be Determined	10/7/2013	To Be Determined
Final Report Activities			
Final Report			
Prepare Final Report	90 days	Upon Completion of the Site Cleanup and Post-Closure Monitoring	----------
Public Comment Period for Revised Cleanup Plan	30 days	Upon Completion of Final Report	----------
Submit Final Report and Responsiveness Summary to PADEP	0 days		Upon Completion of Final Report and Public Comment Period including Preparation of Responsiveness Summary
PADEP Approval	90 days		

Notes:
1. This updated schedule reflects Trinity's best current estimate of the duration for the Design, Permitting, Contracting, and Public Involvement Plan tasks as well as assumed PADEP review times. This schedule will be updated in the future to reflect any changes in these durations.
2. All subsequent dates are based on PADEP approval of the Revised Cleanup Plan.
3. Trinity expects approximately 120 days to prepare and secure all necessary permits, prepare bid documents, and select a remediation contractor. The mobilization date is currently planned to be during Fall 2013 and is contingent on regulatory approval of construction permits.
4. Duration of Site Cleanup Activities is dependent on many factors such as extent of excavation/ grading, quantities for off-site disposal, availability/location of offsite disposal facilities, weather, etc.

APPENDIX B

PRE-DESIGN INVESTIGATION RESULTS

APPENDIX B – PRE-DESIGN INVESTIGATION RESULTS

CLEANUP PLAN
SOUTH PLANT SITE

Trinity Industries, Inc.
Greenville, Pennsylvania

Prepared For: Trinity Industries, Inc.
2525 Stemmons Freeway
Dallas, TX 75207

Prepared By: Golder Associates Inc.
Spring Mill Corporate Center
555 North Lane, Suite 6057
Conshohocken, PA 19428 USA

January 2012

Project No. 073-6009-100

A world of capabilities delivered locally

Golder Associates

Table of Contents

List of Tables

List of Figures

List of Attachments

1.0 INTRODUCTION AND BACKGROUND

On behalf of Trinity Industries, Inc. (Trinity), Golder Associates Inc. (Golder) has prepared this summary of the scope of work and findings of the pre-design investigations at the South Plant Site (Site). These field investigations were designed and completed consistent with recommendations presented in the *Cleanup Work Plan, South Plant Site* (CWP, Golder 2011), which was reviewed and approved with modifications by the Pennsylvania Department of Environmental Protection (PADEP) on June 7, 2011. The work was performed in accordance with requirements of both the Consent Order and Agreement (COA) executed by the Commonwealth of Pennsylvania on December 21, 2006 and the Land Recycling and Environmental Remediation Standards Act (Act 2).

On behalf of Trinity, Golder submitted the Revised Remedial Investigation (RI) Report, South Plant (RI Report, Golder 2010) for the Site on March 1, 2010. The RI Report presented the results of field investigations for Constituents of Concern (COCs) in soil, groundwater and Site stormwater drainage. The COCs included metals, volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). The RI work was conducted in general accordance with the *Final Revised Remedial Investigation Work Plan, North and South Plants* (RI Work Plan, Golder 2007).

Based on the findings presented in the RI Report, the Cleanup Work Plan was submitted to PADEP to propose Response Actions for soils, surface water and groundwater to address impacts at, and potentially migrating from, the Site. The following are field investigations recommended in the Cleanup Work Plan to support remedy evaluation, selection and design:

- Further characterization of soils for disposal or containment design consideration in impacted areas and former disposal areas
- Stormwater drainage evaluation
- Vapor intrusion evaluation at AOC-S2
- Additional groundwater investigations

2.0 SCOPE OF WORK

A field program was developed to address the above listed investigations and is described in the following subsections. Figure B-1 presents the locations for the additional field investigations. The field procedures were performed in general accordance with the RI Work Plan. Investigation-derived waste (IDW) was placed into 55-gallon steel drums with lids, labeled, and stored in a staging location on-Site for characterization and future disposal. The field locations were surveyed by Howells and Baird, Inc., a Pennsylvania-licensed surveyor.

2.1 Further Characterization of Soils

To support the remedial design effort, on-Site soil samples were collected and submitted to laboratories for both chemical analysis and geotechnical testing. The results will be used to further characterize the soils for management via on-Site containment or off-Site disposal options.

2.1.1 Chemical Analyses

Based on the range of metals concentrations found in soils during the RI, there was a potential that some soils could be characterized as hazardous based on toxicity characteristic leaching procedure (TCLP) testing. In accordance with Section 5.1 of the Cleanup Work Plan, Golder collected additional soil samples at selected Areas of Concern (AOCs, see Figure B-1 for locations). The samples were submitted to TestAmerica Laboratories, Inc. (TestAmerica), a Pennsylvania-certified laboratory, for the following analyses:

- RCRA metals, both total and TCLP
- Percent moisture, used to calculate total metals results
- Corrosivity (pH), only for samples collected in the former pickling area (AOC-S3) and former acid pond (AOC-S19)

The following specific Site areas and associated AOCs were selected for further chemical characterization of soils:

Former Disposal Areas

- AOC-S1 "Old Ballfield"
- AOC-S11 Debris/Fill Area Adjacent to AOC-S1
- AOC-S17 Sandblast Sand Fill Area

Former Operating Areas

- AOC-S3 Former Pickling Area
- AOC-S6A Boiler/Power House-East Side

- AOC-S19 Former Acid Filter Drainage Pond
- AOC-S21 Former Plate Painting Yard

Surface Water Pathway Areas

- AOC-S12 Western Drainage Ditch
- General Downgradient SW1
- General Downgradient SW2

A total of 33 soil boring locations were sampled during July 26 to 28, 2011. Table B-1 lists the location, depth, and analyses for each sample. The borehole depths for locations GAI-S1 thru GAI-S17 were based on the RI Report analytical results for metals. The borehole depths for the disposal area locations GAI-S18 thru GAI-S33 were based on the thickness of disposal fill material observed during the RI. The selected locations were spatially distributed across the inferred impacted areas. However, some locations were biased towards the RI locations that showed the highest metals results for each area.

The drilling work was performed by the Pennsylvania-licensed driller SJB Services, Inc. (SJB). Subsurface utility clearance was performed by SJB. With the exception of locations in AOC-S12, the borings were advanced using direct push drilling methods (e.g., Geoprobe® with Macro-Core® soil samplers) regardless of depth. When surficial concrete or asphalt was encountered, it was not included in the sample. Due to both access and the shallowness of the soil samples in AOC-S12, those locations were collected using hand tools. Observations of the boreholes, including depth and soil descriptions, were documented in field logs. These were converted to gINT® logs and are provided in Attachment A.

Composite samples from the borings were collected from the ground surface to the depths provided in Table B-1. The two surface soil samples in AOC-12 were composited from several locations in the vicinity of the indicated position to provide enough sample volume for the laboratory analyses. Upon completion of sampling activities, each boring was backfilled with the unused extruded soil.

During the sampling activities at GAI-S8, the soil was observed to have dark staining and a petroleum-like odor the length of the 18 foot deep boring. Maximum readings with a field photoionization detector were 313 parts per million (ppm). Consistent with these field observations (highest PID readings), a sample for analysis of volatile organic compounds (VOCs) was collected using EnCore® samplers from the 3- to 4-foot interval below ground surface (bgs).

Following collection, the soil samples were transported by courier to TestAmerica for the selected analyses. Quality control samples were collected and analyzed in accordance with the RI Work Plan.

2.1.2 Geotechnical Testing

To support the remedial design for the former waste disposal areas, various geotechnical characteristics are needed for the existing soils. Additional soil samples were collected concurrently with the above described samples (Section 2.1.1) and tested at the Golder soils laboratory in Atlanta, Georgia for the following geotechnical parameters:

- Geotechnical index tests to assist with classification of the Site soils, including:
- Grain size, ASTM D422
- Moisture content, ASTM D2216
- Standard Proctor, ASTM D698
- Direct shear testing for three points per sample, ASTM D2850

A total of eight soil samples were collected in individual 5-gallon buckets in each of the following Site areas:

- AOC-S1, from GAI-S31
- AOC-S3, from GAI-S8
- AOC-S11, from GAI-S26
- AOC-S17 (western side) , from GAI-S18
- AOC-S17 (eastern side) , from GAI-S21
- AOC-S21, from GAI-S2
- General Downgradient SW1, from GAI-S14
- General Downgradient SW2, from GAI-S17

2.2 Stormwater Drainage Evaluation

Golder conducted a stormwater drainage evaluation on July 29, 2011 to better understand some of the drainage and outfall discharge patterns at the Site. In accordance with the Cleanup Work Plan, Golder conducted visual inspections and dye tests. The following locations (refer to Figure B-1) were evaluated for the following reasons:

- DT-S1 (a stormwater drain in the former parking area to the east of the former Main Office) to observe if this area collects stormwater from the former operating areas around AOC-S3 and determine if it drains to the Old Erie Extension Canal
- DT-S2 (a stormwater drain in AOC-S21) to observe if stormwater from this area drains to the Western Drainage Ditch (AOC-S12)

Prior to field activities, Golder contacted the PADEP, Hempfield Township, and Greenville Borough authorities via telephone to inform them of the stormwater drainage evaluation.

Locations DT-S1 and DT-S2 were visually inspected to observe the direction the flow into and out of each stormwater drain. Prior to the dye tests, accumulated sediment was removed from the storm drains to facilitate drainage of the dyed water. This involved lifting and setting aside the grates covering the storm drains using appropriate tools and mechanical equipment. To the extent practical, the sediment was shoveled with hand tools and placed on the ground next to the drain.

Dye tests were then performed to attempt to observe which outfalls were connected to the storm drains. The dye tests used potable water obtained from the Site water supply. A portable intermediate bulk container (IBC) was used to transport water in approximately 300 gallon batches to the test location. A non toxic dye of the type typically used for investigating septic systems was mixed in the IBC. The following volumes of dyed water were poured into the storm drains:

- DT-S1 – 600 gallons of green-dyed water
- DT-S2 – 1,200 gallons of red-dyed water

As the dye batches were being poured into the storm drains, and for several hours after, known stormwater drainage features in the area were observed for dye. In addition to the Old Erie Extension Canal and Western Drainage Ditch, visual observations for dye were also made at a drainage pipe in AOC-S19, outfalls OF-2 and OF-4, the areas directly upgradient and downgradient of these outfalls, and Mathay Run at locations adjacent and downstream of the Site.

The results of the stormwater drainage evaluation are presented in Section 3.2.

2.3 Vapor Intrusion Evaluation

In accordance with the Cleanup Work Plan, Golder conducted a soil vapor evaluation in AOC-S2 (Former Paint Shop) to assess if vapor intrusion represents a potential unacceptable risk to future on-Site workers and to decide if further response actions are necessary. For this evaluation, Golder performed sub-slab sampling with SUMMA canisters on August 26, 2011. The scope of work was based on procedures detailed in the Land Recycling Program Technical Guidance Manual (PADEP, 2002) and the OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) (USEPA, 2002).

This vapor intrusion evaluation was triggered by soil analytical results for SB-S29B previously collected in the interval from 0 to 2-feet bgs. The sample had ethylbenzene (47 mg/kg) and xylene (290 mg/kg) concentrations that exceeded the PADEP Bureau of Land Recycling and Waste Management's commercial vapor intrusion screening levels (VISLs) for soils (9.5 mg/kg and 77 mg/kg, respectively).

For this evaluation, Golder sampled three sub-slab soil vapor locations at the Former Paint Shop building in the vicinity of SB-S29B. The locations are presented on Figure B-1 and are based upon the following rationale:

- SVI-S1 was placed proximate to SB-S29B where xylene was detected above the VISL
- SVI-S2 was installed approximately 100 feet north of SVI-S1 because USEPA vapor intrusion guidance recommends investigation within 100 feet of the known exceedances to the VISL
- SVI-S3 was located approximately 100 feet north of SVI-S2 to provide data to conservatively confirm if there is a potential for vapor intrusion in the north section of the building, although soils data collected in this area do not exceed the VISL.

The soil vapor intrusion evaluation consisted of the following activities:

- Installation of temporary sub-slab sample ports through the concrete floor at the three locations described above.
- Collection of sub-slab soil gas samples in Summa canisters from the three sample ports plus a field duplicate for laboratory analyses. The sub-slab soil gas samples were collected over a period of eight hours.
- Coordination with TestAmerica for analyses of samples for VOCs using USEPA Method TO-15.

The results of the vapor intrusion evaluation are presented in Section 3.3.

2.4 Additional Groundwater Investigations

In accordance with the Cleanup Work Plan, Golder performed additional groundwater investigations to support the assertion in the RI Report that the Mathay Run acts as a hydraulic barrier. These investigations included the installation of two additional shallow groundwater monitoring wells in the vicinity of Mathay Run and the former disposal areas. The wells were installed on August 16 and 17, 2011 by SJB. The wells are screened across the water table and are located in the following areas (refer to Figure B-1):

- MW-S13, south side of Mathay Creek between wells MW-S6 and MW-S11
- MW-S14, hydraulically up-gradient of the disposal areas

During installation of these PVC wells, soil samples were collected for visual observation using a split-spoon sampler. Observations of the well installations, including construction details and soil descriptions, were documented in field logs. The logs were converted to electronic gINT® logs and are provided in Attachment A.

Well MW-S13 was installed on a wooded parcel of Site property across Mathay Run from the main property. Accessing this area with drilling equipment was extremely difficult because there are no roads,

access from adjacent properties would have required a legal agreement and extensive site clearing, and the creek banks are relatively steep in the area. Because of these access limitations, SJB hand-carried equipment across the creek and installed MW-S13 using a drive hammer mounted on a tripod with a motorized winch.

Well MW-S14 was installed using a Geoprobe® rig. The split-spoon was advanced using direct-push techniques. After reaching the bottom of the boring with the split-spoon, an auger was used to widen the borehole for installation of the PVC monitoring well.

After construction was completed, the wells were developed using a hand bailer to remove water until the purged water was relatively clear.

On September 22, 2011, in accordance with the Cleanup Work Plan, water levels were measured both in the Site well network, including the two new wells, and at the Site surface water staff gauges. At the time of these field measurements, access was not available to monitor the wells on the Canadian National Railway property to the west of the Site (i.e., MW-CN1, MW-CN2, and MW-CN3). However, due to their distance from the Mathay Run and considering the previous data from these wells, the omission of water level data from these wells should not impact the interpretation of groundwater flow in the vicinity of creek.

The Cleanup Work Plan calls for three additional rounds of water level measurements. These events will be scheduled and subsequently reported elsewhere.

The results of the additional groundwater investigations are presented in Section 3.4.

3.0 RESULTS AND DISCUSSION

3.1 Further Characterization of Soils

3.1.1 Chemical Analyses

Following receipt of the results for the chemical analyses, Golder validated the data in accordance with the RI Work Plan. The laboratory analytical reports are provided in Attachment B. The results were tabulated, as follows, and compared to the described criteria:

- Table B-2 – Total Metals compared to the Pennsylvania non-residential soil medium-specific concentrations (MSCs) for both direct contact and soil-to-groundwater for used aquifers with total dissolved solids (TDS) less than or equal to 2,500 mg/L
- Table B-3 – TCLP Metals compared to RCRA hazardous waste characterization levels
- Table B-4 – Corrosivity: RCRA hazardous waste characterization levels
- Table B-5 – VOCs compared to the non-residential soil MSCs for direct contact and soil-to-groundwater for used aquifers with TDS less than or equal to 2,500 mg/L

The following subsections discuss the chemical analyses.

3.1.1.1 RCRA Metals

Consistent with the RI, elevated total lead was observed in some of the soil samples (refer to Table B-2). As shown in Table B-3, 8 of 33 samples (24%) exceeded the 5.0 mg/l TCLP threshold for lead, while 25 of the 33 samples were less than the threshold, many of them considerably so (e.g., 0.012 mg/l). A further breakdown is shown below:

Location	Total Number of TCLP Samples	Number of TCLP Results > 5.0 mg/l for Lead
Former Operating Areas	12	4 (33%)
Former Drainage Areas	6	2 (33%)
Former Disposal Areas	17	2 (12%)

No other metals exceeded TCLP criteria. A statistical evaluation of the lead data did not demonstrate a strong correlation between TCLP results and those for total lead, confirming the limitations of using totals values as reliable predictors of the presence of TCLP exceedances.

During upcoming remedial activities, additional soil sampling/analysis will be performed to characterize the excavated soils as either RCRA hazardous or residual waste based upon levels of TCLP lead. On-Site waste management, including separation and subsequent off-Site disposal, will be needed for

materials that are shown to be above the TCLP toxicity threshold for lead. If feasible, on-Site stabilization may be used to reduce the quantity of soils exceeding the TCLP threshold. The remaining materials (i.e., those below the TCLP regulatory threshold) can then be managed as residual waste within on-Site containment areas consistent with the current Site remediation strategy.

3.1.1.2 Corrosivity

Samples for corrosivity (pH) analysis were collected from the following areas:

- Former Pickling Area (AOC-S3): GAI-S5, GAI-S6, GAI-S7, and GAI-S8
- Former Acid Pond (AOC-S19): GAI-S9, GAI-S10, and GAI-S11 (includes field duplicate analysis)

The former operational activities in these areas used acids that have been inferred to have previously leached into the subsurface. Therefore, samples were tested to assess if the acid remained and needed appropriate management during remedial activities. As shown in the results (Table B-4), none of the locations had acidic conditions. Conversely, GAI-S11 located in the southern portion of AOC-19 reported elevated pH (basic conditions); however these results, for both the primary and duplicate samples, were below the RCRA hazardous waste characteristic levels.

3.1.1.3 Soil VOCs

A sample from GAI-S8 (AOC-S3) was analyzed for VOCs since dark staining and a petroleum-like odor was observed. The results were elevated for several VOCs (see Table B-5). During the RI, elevated VOCs were also observed in this area. In accordance with the Cleanup Work Plan, soil remediation is planned in this area.

3.1.2 Geotechnical Testing

The laboratory results for the geotechnical testing are provided in Attachment C. The results have been summarized in Table B-6. These results will be used to evaluate the remedial options for the Site.

3.2 Stormwater Drainage Evaluation

Golder conducted the stormwater drainage evaluation on July 28-29, 2011. During various times during the day on July 28, it rained heavily. When the red dye was poured into stormwater drain DT-S2, the rain was significant. When the green dye was poured into stormwater drain DT-S1, there was no rain for several hours. Overnight after the dye tests, there were several downpours. According to the National Oceanic and Atmospheric Administration (NOAA), over a half inch of rain was recorded on July 28, 2011 at its weather station in Jamestown, PA, which is approximately eight miles from the Site (source: NOAA website). Despite the rain, the concentrations of dye used during the test were still expected to still be visible at the projected downstream locations.

During the drainage evaluation, dye was not seen entering the Old Erie Extension Canal, the Western Drainage Ditch or any of the other locations on-Site including targeted observation points OF-2, OF-4, and Mathay Run. On-Site observations during the dye tests also showed that the outlet pipe from DT-S1 drains to a manhole directly east of OF-1 that redirects the flow to the south and not to the towards the Old Erie Extension Canal.

Several historic Site figures and NPDES permit documents show an outfall named OF-1 located to the east of DT-S1. This outfall is depicted on Figure B-1. However, Golder performed a Site inspection in March 2011 when vegetation was not thick and did not find an outfall pipe in this area. Because there are no known records of the outfall being removed from this location, it is possible that OF-1 was errantly marked on historic records, with the error perpetuated on subsequent documents. Based on the field observations, outfall OF-1 is likely the observed manhole and stormwater from the Site operational areas does not discharge into the Old Erie Extension Canal.

During the dye test, stormwater from the roof drains on the western Site buildings was observed to drain into the Western Drainage Ditch. No other outfalls from the former Site operational areas were seen to drain into the Western Drainage Ditch. In addition, stormwater from the roof drains around the former South Yard was observed to drain into stormwater drain DT-S2 and water in DT-S2 appeared to drain directly into the ground.

Based on the lack of observed discharging dyed water, it cannot be conclusively determined where stormwater entering the tested stormwater drains (DT-S1 and DT-S2) leaves the Site. However, historic inferred groundwater contours (see Figure B-2) have shown mounding in the southeast of the Site.

3.3 Vapor Intrusion Evaluation

Following receipt of the results for the chemical analyses from the Summa canisters, Golder validated the soil gas data in accordance with the RI Work Plan. The laboratory analytical reports are provided in Attachment B. The results are summarized in Table B-7.

In accordance with PADEP's vapor intrusion guidance, the sub-slab soil gas results were compared to Non-Residential Soil Gas MSCs. The Soil Gas MSCs were calculated by taking the PADEP Non-Residential Indoor Air MSCs found on Table 3 of the vapor intrusion guidance and dividing them by a Transfer Factor (TF) from soil gas to indoor air of 0.01. This TF is referenced on page 53 of the vapor intrusion guidance and is considered a conservative approach.

The results of the vapor intrusion evaluation show that several VOCs were detected in soil gas samples; however, none were detected above their respective Soil Gas MSCs. Based on these investigation

results, there are no potential risks to workers from vapor intrusion into the building, and therefore, no further response actions are necessary.

3.4 Additional Groundwater Investigations

Table B-8 presents the water levels measured at the Site wells, including the two new wells, and surface water staff gauges. The table includes results from the September 2011 monitoring event and the five previous monitoring events conducted by Golder (back to April 2008). Table B-8 also provides the water level elevations that have been calculated using previously surveyed measuring points at each location.

Figure B-2 presents the inferred groundwater contours for the Site from the events shown in Table B-8. It should be noted that the contours from September 2011 monitoring event are consistent with other recent events. The water level data measured in the vicinity of the former disposal areas are consistent with the assertion that Mathay Run is a hydraulic barrier, preventing COCs from reaching areas on the other side of the creek.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based upon the results of the pre-design investigations:

- The TCLP results do indicate the potential for some materials to be hazardous due to the presence of lead above TCLP regulatory threshold at such time when the materials are excavated and managed on- and/or off-site. Therefore, additional soil sampling/analysis will be necessary to characterize the excavated soils as either RCRA hazardous or residual waste based upon levels of TCLP lead.
- On-Site waste management will require separation, management, and off-site disposal of any materials that sampling confirms to be above the TCLP threshold for lead. If feasible, on-Site stabilization may be used to reduce the quantity of soils exceeding the TCLP threshold. The remaining soils (i.e., those below the TCLP regulatory threshold) can then be managed as residual waste within on-Site containment areas consistent with the current Site remediation strategy.
- Corrosivity is not considered to be an issue for management and/or disposal of excavated soils.
- Elevated VOCs in specific areas within AOC-S3 may require additional management and/or disposal requirements during remediation.
- There is no evidence that Oufall OF1 is hydraulically connected to the Old Erie Canal; therefore, stormwater from the Former Operating Areas that drain to this location do not discharge to the Old Erie Extension Canal.
- Vapor intrusion evaluation results show that there are no potential risks to workers from vapor intrusion into the building, and therefore, no further response actions are necessary.
- The assertion in the RI Report that Mathay Run is a hydraulic barrier is consistent with the water level data measured in the vicinity of the former disposal areas.

TABLE B-1
SOIL BORING LOCATIONS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

AOC	Sample Location	Borehole Depth (ft bgs)	Analytical Parameters
AOC-S6A	GAI-S1	2	RCRA Metals
AOC-S21	GAI-S2	6	RCRA Metals
	GAI-S3	2	RCRA Metals
	GAI-S4	2	RCRA Metals
AOC-S3	GAI-S5	2	RCRA Metals plus Corrosivity
	GAI-S6	2	RCRA Metals plus Corrosivity
	GAI-S7	2	RCRA Metals plus Corrosivity
	GAI-S8	18	RCRA Metals plus Corrosivity
AOC-S19	GAI-S9	6	RCRA Metals plus Corrosivity
	GAI-S10	6	RCRA Metals plus Corrosivity
	GAI-S11	6	RCRA Metals plus Corrosivity
AOC-S12	GAI-S12	0.1	RCRA Metals
	GAI-S13	0.1	RCRA Metals
General Downgradient SW1	GAI-S14	3	RCRA Metals
	GAI-S15	2	RCRA Metals
General Downgradient SW2	GAI-S16	2	RCRA Metals
	GAI-S17	8	RCRA Metals
AOC-S17	GAI-S18	7	RCRA Metals
	GAI-S19	6	RCRA Metals
	GAI-S20	6	RCRA Metals
	GAI-S21	9	RCRA Metals
	GAI-S22	9	RCRA Metals
AOC-S11	GAI-S23	8	RCRA Metals
	GAI-S24	9	RCRA Metals
	GAI-S25	7	RCRA Metals
	GAI-S26	7	RCRA Metals
	GAI-S27	8	RCRA Metals
	GAI-S28	7	RCRA Metals
AOC-S1	GAI-S29	10	RCRA Metals
	GAI-S30	10	RCRA Metals
	GAI-S31	15	RCRA Metals
	GAI-S32	14	RCRA Metals
	GAI-S33	11	RCRA Metals

Notes:

ft bgs – feet below ground surface

TOTAL METALS RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. -GREENVILLE, PENNSYLVANIA

Sample Location:		PADEP MSCs Non-Residential						GAI-S1		GAI-S2		GAI-S3		GAI-S4		GAI-S5		GAI-S6		GAI-S7		GAI-S8		GAI-S9	
Sample Date:								7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/27/2011		7/27/2011	
Sample Type Code:								N		N		N		N		N		N		N		N		N	
Start Depth (feet):				Soil to Groundwater				0		0		0		0		0		0		0		0		0	
End Depth (feet):		Direct Contact Soil		Used Aquifer, TDS<=2500 mg/l				2		6		2		2		2		2		2		18		6	
Parameter	Unit	0-2 feet	2-15 feet	100 X GW MSC	Generic Value	Max	1/10 Generic	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/kg	53	190000	1	29	29	*2.9*	*16*	*K*	*12*	*K*	*24*	*K*	*25*	*K*	*7.7*	*K*	*7.7*	*K*	*3.9*	*K*	*9.7*		*16*	*L*
Barium	mg/kg	190000	190000	200	8200	8200	*820*	370	K	250	K	230	K	290	K	470	K	200	K	15	K	120		120	
Cadmium	mg/kg	1400	190000	0.5	38	38	*3.8*	0.67		0.68	J	1.3		1.4		0.8		0.51		0.12		0.91		1.3	
Chromium	mg/kg	190000	190000	10	190000	190000	19000	75	L	65	L	95	L	210	L	310	L	37		8.2	L	96	K	25	L
Lead	mg/kg	**1000**	190000	0.5	450	450	*45*	*960*		***3000***		***5900***		***7000***		***3300***		*440*	*L*	*77*		***3600***		*410*	
Selenium	mg/kg	14000	190000	5	26	26	*2.6*	1.8	L	1.3	L	1	L	1.4	L	2.5	L	1.6	L	0.2	L	0.54	J	0.97	J
Silver	mg/kg	14000	190000	10	84	84	8.4	0.13	J	1.4	U	0.089	J	0.13	J	0.1	J	0.058	J	0.026	J	0.05	J	1.1	U
Mercury	mg/kg	450	190000	0.2	10	10	*1*	0.51		0.21		0.33		0.35		0.33		0.51		0.014	J	0.032	K	0.73	

Sample Location:		PADEP MSCs Non-Residential						GAI-S10		GAI-S11		GAI-S11		GAI-S12		GAI-S13		GAI-S14		GAI-S15		GAI-S16		GAI-S17	
Sample Date:								7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011	
Sample Type Code:								N		N		FD		N		N		N		N		N		N	
Start Depth (feet):				Soil to Groundwater				0		0		0		0		0		0		0		0		0	
End Depth (feet):		Direct Contact Soil		Used Aquifer, TDS<=2500 mg/l				6		6		6		1		1		3		2		2		8	
Parameter	Unit	0-2 feet	2-15 feet	100 X GW MSC	Generic Value	Max	1/10 Generic	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/kg	53	190000	1	29	29	*2.9*	*11*	*L*	*6.9*	*L*	*6.9*	*L*	*15*		*25*		*21*	*L*	*14*	*L*	*13*	*L*	*8.4*	*L*
Barium	mg/kg	190000	190000	200	8200	8200	*820*	160		87		88		*1300*		120		220		140		330		55	
Cadmium	mg/kg	1400	190000	0.5	38	38	*3.8*	2.1		0.31		0.25		*4*		2.1		2		0.48		1.7		0.36	
Chromium	mg/kg	190000	190000	10	190000	190000	19000	39	L	96	L	110	L	160	K	31	K	130	L	27	L	96	L	12	L
Lead	mg/kg	**1000**	190000	0.5	450	450	*45*	*960*		*190*		*220*		***14000***		*260*		***1700***		*680*		***8700***		*100*	
Selenium	mg/kg	14000	190000	5	26	26	*2.6*	1.4	JB	0.97		0.89		*4.2*	*J*	*3.1*	*J*	1.1	JB	0.78		1.8	JB	0.55	
Silver	mg/kg	14000	190000	10	84	84	8.4	1.2	U	0.095	J	0.085	J	0.33	J	0.2	J	2.2		0.34		1		0.042	J
Mercury	mg/kg	450	190000	0.2	10	10	*1*	0.55		*1.9*		*1.8*		0.18	K	0.13	K	0.62		0.27		0.36		0.035	J

TOTAL METALS RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. -GREENVILLE, PENNSYLVANIA

Sample Location:		PADEP MSCs Non-Residential						GAI-S18		GAI-S19		GAI-S20		GAI-S21		GAI-S22		GAI-S23		GAI-S24		GAI-S25		GAI-S26	
Sample Date:								7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/26/2011		7/26/2011	
Sample Type Code:								N		N		N		N		N		N		N		N		N	
Start Depth (feet):				Soil to Groundwater				0		0		0		0		0		0		0		0		0	
End Depth (feet):		Direct Contact Soil		Used Aquifer, TDS<=2500 mg/l				7		6		6		9		9		8		9		7		7	
Parameter	Unit	0-2 feet	2-15 feet	100 X GW MSC	Generic Value	Max	1/10 Generic	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/kg	53	190000	1	29	29	*2.9*	1.8		2		2	L	*6.3*		*11*		*7*		*10*		*11*	L	*8.3*	
Barium	mg/kg	190000	190000	200	8200	8200	*820*	16		11		25		29		120		59		87		190		140	
Cadmium	mg/kg	1400	190000	0.5	38	38	*3.8*	0.13		0.094	J	0.47		0.25		0.65		0.44		0.47		1.7		0.56	
Chromium	mg/kg	190000	190000	10	190000	190000	19000	32	K	57	K	12	L	13	K	28	K	31	K	63	K	67	L	310	K
Lead	mg/kg	**1000**	190000	0.5	450	450	*45*	*62*		*45*		*230*		30		***1800***		*550*		*170*		***3400***		***1700***	
Selenium	mg/kg	14000	190000	5	26	26	*2.6*	0.16	J	0.25	J	0.34	J	0.5	J	1.4		0.51	J	0.77		0.69		0.86	
Silver	mg/kg	14000	190000	10	84	84	8.4	0.018	J	0.012	J	0.036	J	0.022	J	0.081	J	0.073	J	0.3		0.59		0.2	
Mercury	mg/kg	450	190000	0.2	10	10	*1*	0.049	K	0.016	K	0.09		0.3	K	0.51	K	0.047	K	0.1	K	0.14		0.41	K

Sample Location:		PADEP MSCs Non-Residential						GAI-S27		GAI-S28		GAI-S29		GAI-S29		GAI-S30		GAI-S31		GAI-S32		GAI-S33	
Sample Date:								7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011	
Sample Type Code:								N		N		N		FD		N		N		N		N	
Start Depth (feet):				Soil to Groundwater				0		0		0		0		0		0		0		0	
End Depth (feet):		Direct Contact Soil		Used Aquifer, TDS<=2500 mg/l				8		7		10		10		10		15		14		11	
Parameter	Unit	0-2 feet	2-15 feet	100 X GW MSC	Generic Value	Max	1/10 Generic	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/kg	53	190000	1	29	29	*2.9*	*23*	*L*	*13*	*L*	*11*	*L*	*12*	*L*	*8.4*	*L*	*11*	*L*	*19*	*L*	*13*	*L*
Barium	mg/kg	190000	190000	200	8200	8200	*820*	320		110		180		140		85		49		93		63	
Cadmium	mg/kg	1400	190000	0.5	38	38	*3.8*	1.4		1.7		0.56		0.55		0.39		0.25		0.32		0.29	
Chromium	mg/kg	190000	190000	10	190000	190000	19000	2600	L	95	L	66	L	130	L	20	L	24	L	18	L	17	L
Lead	mg/kg	**1000**	190000	0.5	450	450	*45*	***2000***		*510*		*300*		*520*		*140*		*180*		*98*		*94*	
Selenium	mg/kg	14000	190000	5	26	26	*2.6*	1.5	JB	1.1		0.92		0.79		0.9		0.53		0.81		0.61	
Silver	mg/kg	14000	190000	10	84	84	8.4	0.45	J	0.28		1.1		1.2		0.046	J	0.23		0.044	J	0.038	J
Mercury	mg/kg	450	190000	0.2	10	10	*1*	0.18		0.23		0.11		0.11		0.051		0.033	J	0.11		0.13	

Notes:
N = primary sample
FD = field duplicate
mg/kg - milligrams per kilogram
NA = not analyzed
NS = standard not available
MSCs - Medium Specific Concentrations
PADEP - Pennsylvania Department of Environmental Protection
Qual = validated qualifier
J = estimated value
K = estimated value, biased high
L = estimated value, biased low
U = not detected above reporting limit

Results above the PA Non-Residential Direct Contact (0-2 ft) Values are shown in **bold**.
Results above the PA Non-Residential Soil to Groundwater (Used Aquifer, TDS <=2500 mg/L) Max MSCs are underlined.
Results above the PA Non-Residential Soil to Groundwater (Used Aquifer, TDS <=2500 mg/L) 1/10 Generic MSCs are shown in italics.
PADEP MSCs Source: PADEP Website
http://www.portal.state.pa.us/portal/server.pt/community/land_recycling_program/10307/statewide_health_standards/552039

Checked by: EHJ

TCLP METALS RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

		Sample ID	GAI-S-S1		GAI-S2		GAI-S3		GAI-S4		GAI-S5		GAI-S6		GAI-S7		GAI-S8		GAI-S9	
		Sample Date	7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/28/2011		7/27/2011		7/27/2011	
		N=Normal, FD=Field Duplicate	N		N		N		N		N		N		N		N		N	
		start_depth	0		0		0		0		0		0		0		0		0	
		end_depth	2		6		2		2		2		2		2		18		6	
Parameter	Unit	TCLP HAZ CHAR LEVELS	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/L	5	0.05	U	0.05	U	0.05	U	0.003	J	0.05	U	0.009	J	0.05	U	0.25	U	0.016	J
Barium	mg/L	100	1		1		1.8		1.4		0.33		0.43		0.42		0.38	J	0.37	
Cadmium	mg/L	1	0.0014	J	0.0022	J	0.018	J	0.012	J	0.00088	J	0.00046	JB	0.0011	JB	0.011	J	0.00036	J
Chromium	mg/L	5	0.0025	J	0.0057	J	0.1	U	0.008	J	0.019	J	0.0013	J	0.008	J	0.19	J	0.05	U
Lead	mg/L	**5**	0.67		**5.6**		**38**		**9.5**		1.2		0.023	J	0.31		**11**		0.05	U
Selenium	mg/L	1	0.0049	JB	0.0043	JB	0.1	U	0.0052	JB	0.0089	JB	0.013	JB	0.0055	JB	0.25	U	0.0047	JB
Silver	mg/L	5	0.05	U	0.05	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U	0.25	U	0.05	U
Mercury	mg/L	0.2	0.0002	U	5.20E-05	J	4.60E-05	J	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U

		Sample ID	GAI-S10		GAI-S11		GAI-S11		GAI-S12		GAI-S13		GAI-S14		GAI-S15		GAI-S16		GAI-S17	
		Sample Date	7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011	
		N=Normal, FD=Field Duplicate	N		N		FD		N		N		N		N		N		N	
		start_depth	0		0		0		0		0		0		0		0		0	
		end_depth	6		6		6		1		1		3		2		2		8	
Parameter	Unit	TCLP HAZ CHAR LEVELS	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/L	5	0.0071	J	0.25	UJ	0.0038	J	0.05	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Barium	mg/L	100	0.28		0.05	J	0.2	J	1.1	L	0.24	J	1.3		0.64	J	1.4		0.12	J
Cadmium	mg/L	1	0.0011	J	0.25	UJ	0.05	UJ	0.037	J	0.0069	J	0.0049	J	0.25	U	0.014	J	0.25	U
Chromium	mg/L	5	0.0014	J	0.25	UJ	0.0037	J	0.0027	J	0.0032	J	0.0039	J	0.0039	J	0.25	U	0.25	U
Lead	mg/L	**5**	0.0027	J	0.25	UJ	0.05	UJ	**37**	**L**	0.023	J	0.94		0.25		**5.6**		0.012	J
Selenium	mg/L	1	0.0045	JB	0.25	UJ	0.0065	JB	0.05	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Silver	mg/L	5	0.05	U	0.25	UJ	0.05	UJ	0.05	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Mercury	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U

Checked by: EHJ

TCLP METALS RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

		Sample ID	GAI-S18		GAI-S19		GAI-S20		GAI-S21		GAI-S22		GAI-S23		GAI-S24		GAI-S25		GAI-S26	
		Sample Date	7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/26/2011		7/26/2011	
		N=Normal, FD=Field Duplicate	N		N		N		N		N		N		N		N		N	
		start_depth	0		0		0		0		0		0		0		0		0	
		end_depth	7		6		6		9		9		8		9		7		7	
Parameter	Unit	TCLP HAZ CHAR LEVELS	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/L	5	0.0027	J	0.014	J	0.0077	J	0.0048	J	0.0093	J	0.0047	J	0.0034	J	0.25	U	0.05	U
Barium	mg/L	100	0.44	L	0.42	L	0.42		0.084	L	0.28	L	0.67	L	0.6	L	0.75	J	0.86	L
Cadmium	mg/L	1	0.00078	J	0.0018	J	0.0069	J	0.0035	J	0.0031	J	0.0052	J	0.0022	J	0.012	J	0.0056	J
Chromium	mg/L	5	0.005	J	0.0056	J	0.0028	J	0.00084	J	0.0015	J	0.007	J	0.0021	J	0.25	U	0.01	J
Lead	mg/L	**5**	0.04	L	0.05	L	0.13		0.015	L	0.027	L	1.7	L	0.044	L	**28**		**7.8**	**L**
Selenium	mg/L	1	0.0051	JB	0.0067	JB	0.0064	JB	0.05	U	0.0043	JB	0.0058	JB	0.0064	JB	0.25	U	0.0045	JB
Silver	mg/L	5	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.25	U	0.05	U
Mercury	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	4.00E-05	J

		Sample ID	GAI-S27		GAI-S28		GAI-S29		GAI-S29		GAI-S30		GAI-S31		GAI-S32		GAI-S33	
		Sample Date	7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011		7/26/2011	
		N=Normal, FD=Field Duplicate	N		N		N		FD		N		N		N		N	
		start_depth	0		0		0		0		0		0		0		0	
		end_depth	8		7		10		10		10		15		14		11	
Parameter	Unit	TCLP HAZ CHAR LEVELS	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Arsenic	mg/L	5	0.25	U	0.071	J	0.25	U	0.25	U	0.0097	J	0.25	U	0.25	U	0.25	U
Barium	mg/L	100	0.84	J	0.82	J	0.73	J	0.66	J	0.66		0.44	J	0.38	J	0.61	J
Cadmium	mg/L	1	0.02	J	0.25	U	0.0019	J	0.0022	J	0.0017	J	0.002	J	0.002	J	0.002	J
Chromium	mg/L	5	0.0045	J	0.0089	J	0.0048	J	0.0036	J	0.0022	J	0.25	U	0.25	U	0.25	U
Lead	mg/L	**5**	0.91		0.18	J	0.38		0.16	J	0.072		0.57		0.057	J	0.094	J
Selenium	mg/L	1	0.25	U	0.25	U	0.25	UJ	0.015	J	0.0046	JB	0.25	U	0.25	U	0.015	J
Silver	mg/L	5	0.25	U	0.25	U	0.25	U	0.25	U	0.05	U	0.25	U	0.25	U	0.25	U
Mercury	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U

Notes:
N = primary sample
FD = field duplicate
mg/L = milligrams per liter
Qual = validated qualifier
B = possible blank contamination
J = estimated value
L = estimated value, biased low
U = not detected above reporting limit

Results above the TCLP Hazardous Characterization Levels are shown in **bold**.

Checked by: EHJ

TABLE B-4
CORROSIVITY RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

		Sample Location:	GAI-S5		GAI-S6		GAI-S7		GAI-S8		GAI-S9		GAI-S10		GAI-S11		GAI-S11	
		Sample Date:	7/28/2011		7/28/2011		7/28/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011	
		Sample Type Code:	N		N		N		N		N		N		N		FD	
		Start Depth (feet):	0		0		0		0		0		0		0		0	
		End Depth (feet):	2		2		2		18		6		6		6		6	
Parameter	Unit	Hazardous Waste Level (EPA Waste Number)	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
pH	SU	≤ 2 and ≥12.5 (D002)	8.1		8.5		7.7		7.33		7.68		7.83		11.6		11.8	

Notes:
N = primary sample
FD = field duplicate
Qual = validated qualifier
SU = standard units

Checked by: EHJ

Golder Associates

TABLE B-5
VOC RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

Sample Location:		PADEP MSCs Non-Residential						GAI-S8	
Sample Date:								7/27/2011	
Start Depth (feet):		Direct Contact Soil		Soil to Groundwater Used Aquifer, TDS<=2500 mg/l				3	
End Depth (feet):								4	
Parameter	Unit	0-2 feet	2-15 feet	100 X GW MSC	Generic Value	Max	1/10 Generic	Result	Qual
1,1,1-Trichloroethane	ug/kg	1.00E+07	1.00E+07	20000	7200	20000	*720*	*7600*	*U*
1,1,2,2-Tetrachloroethane	ug/kg	38000	44000	430	130	430	*13*	*7600*	*U*
1,1,2-Trichloroethane	ug/kg	140000	160000	500	150	500	*15*	*7600*	*U*
1,1-Dichloroethane	ug/kg	1400000	1600000	16000	3900	16000	*390*	*7600*	*U*
1,1-Dichloroethene	ug/kg	1.00E+07	1.00E+07	700	190	700	*19*	*7600*	*U*
1,2,4-Trichlorobenzene	ug/kg	1.00E+07	1.00E+07	7000	27000	27000	*2700*	*7600*	*U*
1,2-Dibromo-3-chloropropane	ug/kg	**370**	**430**	20	9.2	20	*0.92*	***7600***	***U***
1,2-Dibromoethane	ug/kg	**3700**	**4300**	5	1.2	5	*0.12*	***7600***	***U***
1,2-Dichlorobenzene	ug/kg	1.00E+07	1.00E+07	60000	59000	60000	*5900*	*7600*	*U*
1,2-Dichloroethane	ug/kg	86000	98000	500	100	500	*10*	*7600*	*U*
1,2-Dichloropropane	ug/kg	220000	260000	500	110	500	*11*	*7600*	*U*
1,3-Dichlorobenzene	ug/kg	8400000	1.00E+07	60000	61000	61000	*6100*	*7600*	*U*
1,4-Dichlorobenzene	ug/kg	200000	230000	7500	10000	10000	*1000*	*7600*	*U*
2-Butanone	ug/kg	1.00E+07	1.00E+07	400000	76000	400000	*7600*	*7600*	*U*
2-Hexanone	ug/kg	400000	460000	4400	1100	4400	*110*	*7600*	*U*
4-Methyl-2-pentanone	ug/kg	1.00E+07	1.00E+07	820000	130000	820000	13000	11000	
Acetone	ug/kg	1.00E+07	1.00E+07	9200000	1.00E+06	9200000	100000	30000	U
Benzene	ug/kg	290000	330000	500	130	500	*13*	*7600*	*U*
Bromodichloromethane	ug/kg	60000	69000	8000	2700	8000	*270*	*7600*	*U*
Bromoform	ug/kg	2000000	2300000	8000	3500	8000	*350*	*7600*	*U*
Bromomethane	ug/kg	400000	460000	1000	540	1000	*54*	*7600*	*U*
Carbon Disulfide	ug/kg	1.00E+07	1.00E+07	620000	530000	620000	53000	7600	U
Carbon Tetrachloride	ug/kg	150000	170000	500	260	500	*26*	*7600*	*U*
Chlorobenzene	ug/kg	4000000	4600000	10000	6100	10000	*610*	*7600*	*U*
Chloroethane	ug/kg	1.00E+07	1.00E+07	90000	19000	90000	*1900*	*7600*	*U*
Chloroform	ug/kg	97000	110000	8000	2000	8000	*200*	*7600*	*U*
Chloromethane	ug/kg	1200000	1400000	3000	380	3000	*38*	*7600*	*U*
cis-1,2-Dichloroethene	ug/kg	1.00E+07	1.00E+07	7000	1600	7000	*160*	*7600*	*U*
cis-1,3-Dichloropropene	ug/kg	560000	640000	2600	460	2600	*46*	*7600*	*U*
Cyclohexane	ug/kg	1.00E+07	1.00E+07	5300000	6900000	6900000	690000	7600	U
Dibromochloromethane	ug/kg	82000	95000	8000	2500	8000	*250*	*7600*	*U*
Dichlorodifluoromethane	ug/kg	1.00E+07	1.00E+07	100000	100000	100000	10000	7600	U
Ethylbenzene	ug/kg	1.00E+07	1.00E+07	70000	46000	70000	*4600*	*92000*	
Freon 113	ug/kg	1.00E+07	1.00E+07	1.00E+07	1.00E+07	1.00E+07	1.00E+06	7600	U
Isopropylbenzene	ug/kg	1.00E+07	1.00E+07	350000	2500000	2500000	250000	110000	
Methyl Acetate	ug/kg	1.00E+07	1.00E+07	1.00E+07	1900000	1.00E+07	190000	7600	U
Methyl Cyclohexane	ug/kg	NS	NS	NS	NS	NS	NS	7600	U
Methyl tert-Butyl Ether	ug/kg	8600000	9900000	96000	14000	96000	*1400*	*7600*	*U*
Methylene Chloride	ug/kg	4700000	5400000	500	76	500	*7.6*	*7600*	*U*
Styrene	ug/kg	1.00E+07	1.00E+07	10000	24000	24000	*2400*	*7600*	*U*
Tetrachloroethene	ug/kg	1500000	4400000	500	430	500	*43*	*7600*	*U*
Toluene	ug/kg	1.00E+07	1.00E+07	100000	44000	100000	*4400*	*83000*	
trans-1,2-Dichloroethene	ug/kg	4800000	5500000	10000	2300	10000	*230*	*7600*	*U*
trans-1,3-Dichloropropene	ug/kg	560000	640000	2600	460	2600	*46*	*7600*	*U*
Trichloroethene	ug/kg	1300000	1500000	500	170	500	*17*	*7600*	*U*
Trichlorofluoromethane	ug/kg	1.00E+07	1.00E+07	200000	87000	200000	8700	7600	U
Vinyl Chloride	ug/kg	110000	580000	200	27	200	*2.7*	*7600*	*U*
Xylenes, Total	ug/kg	8000000	9100000	1.00E+06	990000	1.00E+06	*99000*	*660000*	

Notes:
ug/kg - micrograms per kilogram
NS = standard not available
MSCs - Medium Specific Concentrations
PADEP - Pennsylvania Department of Environmental Protection
Qual = validated qualifier
U = not detected above reporting limit

Results above the PA Non-Residential Direct Contact (0-2 ft) Values are shown in **bold.**
Results above the PA Non-Residential Soil to Groundwater (Used Aquifer, TDS <=2500 mg/L) Max MSCs are underlined.
Results above the PA Non-Residential Soil to Groundwater (Used Aquifer, TDS <=2500 mg/L) 1/10 Generic MSCs are shown in *italics*.

PADEP MSCs Source: PADEP Website
http://www.portal.state.pa.us/portal/server.pt/community/land_recycling_program/10307/statewide_health_standards/552039

Checked by: SLJ

TABLE B-6
GEOTECHNICAL TESTING SUMMARY
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

Site Location	AOC	Sample Identification	Sample Type	Sample Depth	Soil Classification USCS symbol	Natural Moisture Content %	Grain Size Distribution			Compaction		Compaction (Corrected)		UU Triaxial Test	
							Gravel %	Sand %	Fines %	Maximum Dry Density (lb/cuft)	Optimum Moisture %	Maximum Dry Density (lb/cuft)	Optimum Moisture %	Friction angle phi degrees	cohesion c psf
Former Operation Areas	AOC-S21	GAI-S2	Bulk	0.0-6.0'	(SM)	19.1	26.6	50.8	22.6	100.9	18.4	105.8	16.1	26.5	447.2
	AOC-S3	GAI-S8	Bulk	0.0-18.0'	(ML)	24.1	9.4	36.0	54.6	115.6	13.6	117.3	12.8	29.4	749.8
Drainage Areas	General Downgradient - SW1	GAI-S14	Bulk	0.0-3.0'	(SM)	8.0	42.3	42.5	15.2	127.7	14.3	131.7	13.0	27.8	386.6
	General Downgradient - SW2	GAI-S17	Bulk	0.0-8.0'	(ML)	25.9	5.0	41.3	53.7	109.9	15.7	-	-	26.0	674.7
Former Disposal Areas	AOC-S17	GAI-S18	Bulk	0.0-7.0'	(SM)	9.3	3.6	82.4	14.0	106.5	13.7	-	-	27.9	230.9
	AOC-S17	GAI-S21	Bulk	0.0-9.0'	(SM)	44.1	3.4	48.8	47.8	103.8	20.4	-	-	24.7	759.8
	AOC-S11	GAI-S26	Bulk	0.0-7.0'	(ML)	27.3	11.9	28.7	59.4	102.8	21.1	107.2	19.3	21.3	731.9
	AOC-S1	GAI-S31	Bulk	0.0-15.0'	(SM)	12.6	13.6	52.6	33.8	116.5	13.8	120.7	12.8	25.4	434.3

ABBREVIATIONS: UU = UNCONSOLIDATED UNDRAINED COMPRESSION TEST
Mc = MOISTURE (As seen in Grain size distribution charts)
SM = Silty SAND
ML = SILT

NOTES:

1. Sample ID GAI-S-xx is synonymous with sample ID GAI-Sxx as shown on Figure 1 and in the text of the report. For example GAI-S-2 is same as GAI-S2.
2. USCS symbol is based on visual observation and sieve results reported by the geotechnical laboratory.
3. The corrected maximum dry density and optimum moisture content results should be used in calculations for sample numbers GAI-S-2, GAI-S-8, GAI-S-14, GAI-S-26 and GAI-S-31. The corrections were made due to the presence of oversized particles in the samples collected. Refer "Principles of Foundation Engineering" by Braja M. Das, 5th Edition,Chapter

SOIL VAPOR INTRUSION RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

					Sample ID	SVI-S1			SVI-S2			SVI-S3			SVI-S3		
					Sample Date	8/16/2011			8/16/2011			8/16/2011			8/16/2011		
					N=Normal; FD=Field Duplicate	N			N			N			FD		
Parameter	cas_rn	Units	PADEP Non-Residential MSCs for Indoor Air	Calculated Non-Residential MSCs for Soil Gas		Result	Qualifier	Rept Limit	Result	Qualifier	Rept Limit	Result	Qualifier	Rept Limit	Result	Qualifier	Rept Limit
1,1,1-Trichloroethane	71-55-6	µg/m³	6,100	610,000		< 11	U	11	< 11	U	11	< 11	U	11	< 11	U	11
1,1,2,2-Tetrachloroethane	79-34-5	µg/m³	1.4	140		< 14	U	14	< 14	U	14	< 14	U	14	< 14	U	14
1,1,2-Trichloroethane	79-00-5	µg/m³	5.1	510		< 11	U	11	< 11	U	11	< 11	U	11	< 11	U	11
1,1-Dichloroethane	75-34-3	µg/m³	50	5,000		< 8	U	8	< 8	U	8	< 8	U	8	< 8	U	8
1,1-Dichloroethene	75-35-4	µg/m³	580	58,000		< 8	U	8	< 8	U	8	< 8	U	8	< 8	U	8
1,2,4-Trichlorobenzene	120-82-1	µg/m³	79	7,900		< 37	U	37	< 37	U	37	< 37	U	37	< 37	U	37
1,2,4-Trimethylbenzene	95-63-6	µg/m³	17	1,700		190		10	< 10	U	10	< 10	U	10	< 10	U	10
1,2-Dibromoethane	106-93-4	µg/m³	0.37	37		< 15	U	15	< 15	U	15	< 15	U	15	< 15	U	15
1,2-Dichlorobenzene	95-50-1	µg/m³	410	41,000		< 12	U	12	< 12	U	12	< 12	U	12	< 12	U	12
1,2-Dichloroethane	107-06-2	µg/m³	3.1	310		< 8	U	8	< 8	U	8	< 8	U	8	< 8	U	8
1,2-Dichloropropane	78-87-5	µg/m³	7.9	790		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
1,2-Dichlorotetrafluoroethane	76-14-2	µg/m³	NS	NS		< 14	U	14	< 14	U	14	< 14	U	14	< 14	U	14
1,3,5-Trimethylbenzene	108-67-8	µg/m³	17	1,700		140		10	< 10	U	10	< 10	U	10	< 10	U	10
1,3-Butadiene	106-99-0	µg/m³	2.6	260		< 4	U	4	< 4	U	4	< 4	U	4	< 4	U	4
1,3-Dichlorobenzene	541-73-1	µg/m³	NS	NS		< 12	U	12	< 12	U	12	< 12	U	12	< 12	U	12
1,4-Dichlorobenzene	106-46-7	µg/m³	13	1,300		< 12	U	12	< 12	U	12	< 12	U	12	< 12	U	12
2,2,4-Trimethylpentane	540-84-1	µg/m³	NS	NS		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
2-Butanone	78-93-3	µg/m³	2,900	290,000		< 15	U	15	< 15	U	15	< 15	U	15	< 15	U	15
2-Chlorotoluene	95-49-8	µg/m³	200	20,000		< 10	U	10	< 10	U	10	< 10	U	10	< 10	U	10
4-Ethyltoluene	622-96-8	µg/m³	NS	NS		28		10	< 10	U	10	< 10	U	10	< 10	U	10
4-Methyl-2-pentanone	108-10-1	µg/m³	200	20,000		< 20	U	20	< 20	U	20	< 20	U	20	< 20	U	20
Acetone	67-64-1	µg/m³	91,000	9,100,000		< 120	U	120	< 120	U	120	< 120	U	120	< 120	U	120
Allyl Chloride	107-05-1	µg/m³	2.9	290		< 16	U	16	< 16	U	16	< 16	U	16	< 16	U	16
Benzene	71-43-2	µg/m³	11	1,100		< 6	U	6	< 6	U	6	< 6	U	6	< 6	U	6
Bromodichloromethane	75-27-4	µg/m³	2.2	220		< 13	U	13	< 13	U	13	< 13	U	13	< 13	U	13
Bromoform	75-25-2	µg/m³	74	7,400		< 21	U	21	< 21	U	21	< 21	U	21	< 21	U	21
Bromomethane	74-83-9	µg/m³	14	1,400		< 8	U	8	< 8	U	8	< 8	U	8	< 8	U	8
Carbon Disulfide	75-15-0	µg/m³	2,000	200,000		< 16	U	16	< 16	U	16	< 16	U	16	< 16	U	16
Carbon Tetrachloride	56-23-5	µg/m³	5.5	550		< 13	U	13	< 13	U	13	< 13	U	13	< 13	U	13
Chlorobenzene	108-90-7	µg/m³	51	5,100		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
Chloroethane	75-00-3	µg/m³	99	9,900		< 13	U	13	< 13	U	13	< 13	U	13	< 13	U	13
Chloroform	67-66-3	µg/m³	0.92	92		< 10	U	10	< 10	U	10	< 10	U	10	< 10	U	10
Chloromethane	74-87-3	µg/m³	45	4,500		< 10	U	10	< 10	U	10	< 10	U	10	< 10	U	10
cis-1,2-Dichloroethene	156-59-2	µg/m³	100	10,000		< 8	U	8	< 8	U	8	< 8	U	8	< 8	U	8

Checked by: KVN Date: 9/22/2011

SOIL VAPOR INTRUSION RESULTS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

					Sample ID	SVI-S1			SVI-S2			SVI-S3			SVI-S3		
					Sample Date	8/16/2011			8/16/2011			8/16/2011			8/16/2011		
					N=Normal; FD=Field Duplicate	N			N			N			FD		
Parameter	cas_rn	Units	PADEP Non-Residential MSCs for Indoor Air	Calculated Non-Residential MSCs for Soil Gas		Result	Qualifier	Rept Limit	Result	Qualifier	Rept Limit	Result	Qualifier	Rept Limit	Result	Qualifier	Rept Limit
cis-1,3-Dichloropropene [2]	10061-01-5	µg/m³	20	2,000		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
Cyclohexane	110-82-7	µg/m³	NS	NS		< 7	U	7	< 7	U	7	< 7	U	7	< 7	U	7
Dibromochloromethane	124-48-1	µg/m³	3	300		< 17	U	17	< 17	U	17	< 17	U	17	< 17	U	17
Dichlorodifluoromethane	75-71-8	µg/m³	510	51,000		< 25	U	25	< 25	U	25	< 25	U	25	< 25	U	25
Ethylbenzene	100-41-4	µg/m³	73	7,300		39		9	< 9	U	9	< 9	U	9	< 9	U	9
Freon 113	76-13-1	µg/m³	88,000	8,800,000		< 15	U	15	< 15	U	15	< 15	U	15	< 15	U	15
Hexachlorobutadiene	87-68-3	µg/m³	NS	NS		< 21	U	21	< 21	U	21	< 21	U	21	< 21	U	21
m,p-Xylenes [1]	179601-23-1	µg/m³	300	30,000		170		22	< 22	U	22	< 22	U	22	< 22	U	22
Methyl tert-Butyl Ether	1634-04-4	µg/m³	310	31,000		< 7	U	7	< 7	U	7	< 7	U	7	< 7	U	7
Methylene Chloride	75-09-2	µg/m³	170	17,000		< 17	U	17	< 17	U	17	< 17	U	17	< 17	U	17
n-Heptane	142-82-5	µg/m³	NS	NS		< 8	U	8	< 8	U	8	45		8	55		8
n-Hexane	110-54-3	µg/m³	580	58,000		7		7	< 7	U	7	64		7	74		7
o-Xylene [1]	95-47-6	µg/m³	300	30,000		88		9	< 9	U	9	< 9	U	9	< 9	U	9
Styrene	100-42-5	µg/m³	2,900	290,000		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
tert-Butyl Alcohol	75-65-0	µg/m³	NS	NS		< 150	U	150	< 150	U	150	< 150	U	150	< 150	U	150
Tetrachloroethene	127-18-4	µg/m³	140	14,000		400		14	52		14	< 14	U	14	< 14	U	14
Toluene	108-88-3	µg/m³	1,200	120,000		19		8	< 8	U	8	9		8	11		8
trans-1,2-Dichloroethene	156-60-5	µg/m³	200	20,000		< 8	U	8	< 8	U	8	< 8	U	8	< 8	U	8
trans-1,3-Dichloropropene [2]	10061-02-6	µg/m³	20	2,000		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
Trichloroethene	79-01-6	µg/m³	48	4,800		< 11	U	11	< 11	U	11	< 11	U	11	< 11	U	11
Trichlorofluoromethane	75-69-4	µg/m³	2,000	200,000		< 11	U	11	< 11	U	11	< 11	U	11	< 11	U	11
Vinyl Bromide	593-60-2	µg/m³	2.6	260		< 9	U	9	< 9	U	9	< 9	U	9	< 9	U	9
Vinyl Chloride	75-01-4	µg/m³	9.5	950		< 5	U	5	< 5	U	5	< 5	U	5	< 5	U	5

Notes:
NS = No Standard
ug/m3 = micrograms per cubic meter
PADEP Non-Residential MSC for Indoor Air: Table 3 of of PADEP's Guidance for Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard"
MSCs for soil gas = MSC for Indoor Air/Transfer factor from soil gas to indoor air of 0.01; page 53 of PADEP's Guidance for Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard"
Detected results greater than soil gas MSC are **bolded.**
[1] - PADEP MSC presented is for total xylenes.
[2] - PADEP MSC presented is for total 1,3-dichloropropene

Checked by: KVN Date: 9/22/2011

TABLE B-8
WATER ELEVATIONS
PRE-DESIGN INVESTIGATIONS - SOUTH PLANT
TRINITY INDUSTRIES, INC. - GREENVILLE, PENNSYLVANIA

WELL I.D.	Ground Surface [ft MSL]	Measuring Point [ft MSL]	April 28, 2008		September 9, 2008		March 9, 2009		May 4, 2009		June 22, 2009		September 22, 2011	
			Depth to Water [feet bmp]	Groundwater Elevation [feet msl]	Depth to Water [feet bmp]	Water Elevation [feet msl]	Depth to Water [feet bmp]	Water Elevation [feet msl]	Depth to Water [feet bmp]	Water Elevation [feet msl]	Depth to Water [feet bmp]	Water Elevation [feet msl]	Depth to Water [feet bmp]	Water Elevation [feet msl]
MW-S1	936.10	938.67	5.59	933.08	6.83	931.84	3.75	934.92	5.67	933.00	5.33	933.34	5.76	932.91
MW-S2	938.86	941.43	5.72	935.71	6.47	934.96	5.02	936.41	5.76	935.67	5.30	936.13	5.47	935.96
MW-S3	940.51	942.82	6.05	936.77	6.64	936.18	5.34	937.48	5.91	936.91	5.78	937.04	5.92	936.90
MW-S4	939.52	942.08	6.56	935.52	6.77	935.31	5.38	936.70	6.45	935.63	6.25	935.83	6.45	935.63
MW-S5	940.18	942.73	6.05	936.68	6.75	935.98	4.72	938.01	6.06	936.67	5.64	937.09	6.21	936.52
MW-S6	939.65	942.51	7.49	935.02	8.74	933.77	5.98	936.53	7.55	934.96	7.14	935.37	7.54	934.97
MW-S7	939.35	941.82	6.13	935.69	6.7	935.12	4.82	937.00	5.82	936.00	5.34	936.48	5.67	936.15
MW-S8	939.07	941.69	5.53	936.16	6.28	935.41	4.05	937.64	5.37	936.32	4.84	936.85	5.25	936.44
MW-S9	938.77	941.27	6.85	934.42	7.91	933.36	5.48	935.79	6.82	934.45	6.25	935.02	6.60	934.67
MW-S10	938.69	941.05	NA	NA	NA	NA	6.71	934.34	8.4	932.65	8.25	932.80	8.78	932.27
MW-S11	935.81	938.23	NA	NA	NA	NA	3.10	935.13	4.43	933.80	4.09	934.14	4.57	933.66
MW-S12	938.83	941.23	NA	NA	NA	NA	6.12	935.11	7.43	933.80	7.09	934.14	7.16	934.07
MW-S13	937.12	939.79	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.90	933.89
MW-S14	939.09	941.88	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.28	935.60
SG-S1	NA	938.54	NA	NA	0.50	935.71	1.20	936.41	0.23	935.44	0.27	938.28	0.19	935.40
SG-S2	NA	937.39	NA	NA	1.14	935.20	2.35	936.41	0.83	934.89	0.90	936.49	1.04	935.10
SG-S3	NA	937.02	NA	NA	1.32	935.01	2.40	936.09	1.18	934.87	1.30	935.72	1.33	935.02
MW-CN1	943	942.88	NA	NA	NA	NA	5.30	937.58	5.85	937.03	5.63	937.25	NM	NA
MW-CN2	941.32	941.24	NA	NA	NA	NA	5.52	935.72	6.84	934.40	6.27	934.97	NM	NA
MW-CN3	942.46	942.12	NA	NA	NA	NA	6.10	936.02	6.94	935.18	6.52	935.60	NM	NA
MW-CN4	942.88	942.26	NA	NA	NA	NA	5.95	936.31	6.64	935.62	NA	NA	NA	NA

Notes:
1) ft BTOC - feet below top of casing
2) ft MSL - feet above Mean Sea Level
MW = Groundwater Monitoring Well
SG = Staff Gauge
NA = Not Applicable
NM - Not Measured
MW-CN4 abandoned by B&LE